



Figure 1

- Any N+K Coding algorithm can be represented in matrix form ($m = n+k$):

$$\begin{bmatrix} g_{11} & & g_{1n} \\ & & \\ & & \\ & & \\ g_{m1} & & g_{mn} \end{bmatrix} \begin{bmatrix} a_1 \\ \\ \\ a_n \end{bmatrix} = \begin{bmatrix} c_1 & & & & c_m \end{bmatrix}$$

- Where $c_i = f_i(g_{i1}(c_1), \dots, g_{in}(c_n))$

Figure 2

$$\begin{array}{rcl}
 (1+c)A & & \\
 = & & \\
 1A & a_1 & a_2 \quad \dots \quad a_{m-2} \quad a_{m-1} \quad a_m \\
 cA & a_m & a_1 \quad \dots \quad a_{m-3} \quad a_{m-2} \quad a_{m-1} \\
 \hline
 + \text{key} & a_1 & \\
 = & \frac{\quad}{a_m} & \begin{array}{l} \xrightarrow{\hspace{10em}} + \frac{a_m}{\quad} \\ \hspace{10em} + \frac{a_{m-1}}{\quad} \xleftarrow{a_{m-1}} \\ \hspace{10em} + \frac{a_{m-2}}{\quad} \xleftarrow{a_{m-2}} \\ \hspace{10em} + \frac{a_{m-3}}{\quad} \xleftarrow{a_{m-3}} \\ \hspace{10em} \dots \\ \hspace{10em} \dots \\ \hspace{10em} \xleftarrow{\hspace{1em}} \\ + \frac{a_2}{a_1} \end{array}
 \end{array}$$

Figure 3